

A satellite image of a large hurricane with a clear eye, centered over the Gulf of Mexico, with the coastlines of North America and Central America visible.

Louisiana Sea Grant Response to Hurricanes Katrina and Rita

Three months following Hurricanes Katrina and Rita, south Louisiana remains in disarray. Categorizing the magnitude of the destruction as “vast” fails to convey the storms’ impacts. Despite the crushing blow to Louisiana’s coast and its coastal communities, assessment and recovery efforts advance. Included below is a partial accounting of the ongoing Louisiana Sea Grant College Program’s (LSG) response to the storms.

Extension:

- In an Oct. 31, 2005, article, the New Orleans *Times-Picayune* estimated that there are approximately 3,000 commercial vessels and 35,000 to 45,000 recreational boats missing or in need of recovery. As of Dec. 6, approximately 206 commercial vessels had been recovered by the U.S. Coast Guard. And at least 800 commercial vessels have been salvaged privately. The commercial vessel recovery process is expected to take six to eight months.

Louisiana Sea Grant Marine Extension personnel, recognizing the economic importance of quickly getting commercial fishing boats back into the water and clearing waterways of damaged vessels, responded to a call from their counterparts in the northwest United States offering aid. Through the combined efforts of the Washington, Alaska and Louisiana Sea Grant programs, along with the Pacific Coast Congress of Harbormasters, a surplus Marine Travelift was identified in the City and Port of Valdez, Alaska, and its donation was solicited for the vessel recovery effort. LSG administration and Plaquemines Parish government endorsed this effort by submitting letters of support to the Valdez City Council, which approved the donation at its Dec. 5 meeting.

- LSG marine extension agent Mark Schexnayder was named special assistant in charge of Hurricane Katrina recovery for the Louisiana State University Agricultural Center, reporting directly to the AgCenter’s chancellor. As such, Schexnayder established a working group/task force to address constituents’ needs in the five-parish area impacted by the storm. Marine extension agents Kevin Savoie and Mark Shirley are members of the Hurricane Rita recovery working group/task force.

In a November interview on the Weather Channel, Schexnayder conveyed to the nation some of the difficulties New Orleans area residents are continuing to experience during the recovery/rebuilding phase.

- Using satellite images and geographical information systems, LSG marine extension agent Thomas Hymel developed Hurricane Rita storm surge maps for St. Mary, Iberia and Vermilion parishes. Additional maps will be developed for Cameron and Calcasieu parishes. The objective is to delineate total acreage in those parishes inundated by brackish surge water from the storm.

Coastal communities in these parishes are interested in the information as it relates to agriculture, building codes, rebuilding efforts, insurance and financing. Hymel is using the data as an educational opportunity to show residents how much damage could have occurred if the storm surge was greater and what might happen in future storms.

- Louisiana Sea Grant marine extension agent Rusty Gaude’ has worked closely with many owners and operators of seafood-related businesses damaged by Hurricane Katrina. Among them is Theresa Nguyen, owner of Theresa’s Seafood (a processor/wholesale operation) in St. Bernard Parish, whom



Louisiana Sea Grant marine extension agent Rusty Gaudé discusses with Theresa Nguyen, owner of Theresa's Seafood in St. Bernard Parish, what steps she must take to get electrical power restored to her business. Nguyen's seafood wholesale operation had been without power for more than three months, since Hurricane Katrina made landfall.

Gaudé helped determine what steps she needs to take to get her business operational again. Winds and storm surge ravaged her building, blowing out walls, and causing several commercial fishing vessels to block access to her dock.

Power to Nguyen's business had been out for more than three months as of Dec. 1. Shrimp valued at about \$300,000 before the storm continues to rot in her freezers. Gaudé, after consulting with local officials, explained to Nguyen that she needs to get a locally licensed electrician to install a temporary electrical pole and certify the facility as suitable to receive power. He is working with local, state and federal officials to have the damaged commercial fishing boats blocking her dock removed.

- Hurricane Rita left the canals at Cypremort Point filled with sediment and debris, preventing boats from using the waterways. Marine extension agent Glenn Thomas aided in connecting local officials with state and federal representatives who could help with clearing the channels. Sea Grant agents also helped local officials document the damage in order to receive Federal Emergency Management Agency (FEMA) assistance.

- Marine extension agent Mark Shirley helped assess damage to crawfish and alligator farms, as well as recreational fishing ponds, following Hurricane Rita. Shirley estimated that 25,000 acres of crawfish ponds in Vermilion, Iberia and St. Martin parishes were directly impacted by flood waters, and that little or no production can be expected in the affected areas for the coming season. Alligator farms received varied degrees of damage from the storm. However, marshes where alligator eggs are harvested were flooded with saltwater, and egg production will have to be monitored for a few years to calculate the full impact.

Legal:

- More than 600,000 dwellings in Louisiana were affected by Hurricanes Katrina and Rita, according to the American Red Cross. Of those, 283,000 homes were destroyed and suffered major damage.

The Louisiana Sea Grant Legal Program is working on efforts to reduce the impacts of future storms with two educational publications. The *Louisiana Coastal Hazard Mitigation Guidebook* (modeled after a similar Hawaii Sea Grant publication) will target community planners and leaders, homeowners and developers to help them reduce the inherent risks associated with building in the coastal zone. The book will identify hazards and offer siting, zoning and construction guidelines for building and rebuilding a safer Louisiana, while remaining sensitive to cultural and community needs. The second publication will present the principles of FEMA's *Coastal Construction Manual* in plainer terms for current and future homeowners and explain what rebuilding requirements must be met to qualify for flood insurance.

Through a project development grant, LSG Legal also is assessing land use planning authority related to zoning for coastal hazards.



Storm and flood damage wrecked New Orleans' Lower 9th Ward.

- Continuing to address the needs of south Louisiana residents in the wake of the storm, LSG Legal organized a seminar on reducing risks from coastal hazards on Oct. 17, 2005. Dennis Hwang, an internationally recognized coastal zone management expert and attorney from Hawaii, was the featured seminar presenter. The half-day program, attended by more than 70 people, complemented the Presidents' Forum on Meeting Coastal Challenges series (<http://www.laseagrant.org/forum/index.html>), which is co-hosted by LSG, and provided the groundwork for more in-depth discussion of ideas that will be covered at the next forum in March 2006.

Research:

- Analysis of satellite imagery by the Louisiana State University Coastal Studies Institute indicates that Hurricanes Katrina and Rita caused heavy damage to the state's marshes. Assessments by the U.S. Geological Survey show that approximately 20 percent (30 square miles) of the land in the upper portion of Breton Sound in

Plaquemines Parish was converted to open water by Katrina.

The Louisiana Restoration Science Community has prepared a position paper and recommended to the Governor's Advisory Commission on Coastal Restoration and Conservation that existing freshwater diversion structures be used during spring 2006 to assist with mitigation of future hurricane damage to local marshes. LSG wetlands and coastal resources professor Rex Caffey is the lead author of the position paper, which also recommends that additional expenditures on the Mississippi River Gulf Outlet (MRGO) be limited until long-awaited studies conducted for the MRGO Re-evaluation Study are available for further review by the wider community, and that a natural resource expert be included on the Louisiana Recovery Authority.

- Thousands of university students throughout Louisiana aided in the response to Hurricane Katrina. Among those helping with the recovery effort are 25 landscape architecture students at Louisiana State University. The seniors focused their efforts this fall on a development plan and design for a new New Orleans. Louisiana Sea Grant provided funding support for the project.



As waters rose in the Greater New Orleans area, both recreational and commercial boats were pushed inland and deposited in commercial and residential areas.

Safe and sustainable growth concepts that result in a more disaster-prepared community are a principal aspect of their urban design plans, along with alternative transportation concepts. The students' designs provide a range of economic development alternatives, with the goal of bringing evacuated residents back to livable, attractive neighborhoods.

The students produced two- and three-dimensional plans and supporting materials that demonstrate a number of alternatives for rebuilding a safer, engaging and vibrant New Orleans.

The students also are establishing a Web site to publish their recommendations and plans.

- LSG's oyster hatchery on Grand Isle has been instrumental in the development of new science and has been an important component in Gulf Oyster Industry Program (GOIP) research. The facility was obliterated by Hurricane Katrina. LSG research professor John Supan is working with federal and state officials, as well as industry proponents, on the hatchery's reconstruction effort.

- Supan will chair the strategic planning committee that will help implement the Louisiana Oyster Task Force Oyster Recovery Plan. Marine extension agent Rusty Gaude' has been asked to serve on the committee. Supan also will serve as chair of the Louisiana Oyster Task Force's research and development committee, and he has assisted the Louisiana Oyster Dealers and Growers Association with the establishment of the Louisiana Oyster Community Relief Fund.

- Hurricane Katrina caused damage to Louisiana's oyster leases, and a need exists to document that damage in order to acquire clean-up funding. Supan, partnering with the Louisiana Department of Wildlife and Fisheries and Nicholls State University, is seeking funding to conduct such an assessment.



Commercial fishing vessels were strewn about by Hurricane Katrina. These boats must be moved before a commercial dock they block can be put back into service.

- Marine extension agent Rusty Gaude' is assisting the Louisiana Department of Wildlife and Fisheries on a project where local fishermen in Plaquemines and St. Bernard parishes will assess the area's oyster beds. Marine extension agent Thomas Hymel will instruct participants in the proper use of Global Positioning Systems (GPS).

- LSG researcher Irv Mendelsohn is preparing a proposal for a project to monitor several Louisiana oil spill sites and their recovery. The spills occurred in the marsh as a result of Hurricane Katrina. Louisiana Sea Grant is considering funding the project for two years, and the National Oceanic and Atmospheric Administration (NOAA) Restoration Center is considering funding it for an additional three years.

Education:

- As a result of Hurricanes Katrina and Rita hitting the Louisiana coast, Louisiana Sea Grant Education compiled and posted on its Web site (www.lamer.lsu.edu) useful links for students and teachers to find accurate information about the science of hurricanes and current storms. Links also include imagery, safety, recovery and available materials for teachers to use in their classrooms.

- Many educational events for students and teachers across the state were cancelled because of the storms. Despite some logistical hurdles, LSG Education elected to hold *Ocean Commotion 2005*, a one-day marine education fair, as scheduled at LSU to bring some normalcy to the school year. Several exhibitors responded positively to the decision and participated. There were many exhibits featuring hurricanes as a topic. Several pre-registered schools required additional spaces for evacuee students. In all, about 100 of the 1,900 students attending were evacuees, as well as a few exhibitors.

- LSG Education has been working with the LSU Department of Curriculum and Instruction to develop an information PowerPoint on levees and storm surge and is working toward developing activities that will help students and teachers understand the mechanics of storm surge and the structure of levees. LSG Education's planned focus on developing student activities on barrier islands will incorporate both Hurricanes Katrina and Rita impacts to the coast and will use imagery and archived data from both storms.

- LSG Education also prepared a summary narrative proposal to NOAA Community Based Restoration for two schools to receive start up money to develop greenhouses on their campuses for service learning, horticulture, Coastal Roots and restoration efforts.

Communications:

- Responding to the need for information in the aftermath of Hurricane Katrina, LSG Communications launched a recovery resources Web site at www.laseagrant.org/hurricane/index.htm.

The Louisiana Hurricane Recovery Resources site, officially unveiled Sept. 19, 2005, offers visitors information on topics such as wetlands, seafood, water quality, ports, economic impacts and rebuilding concerns. Through a question-and-answer format with experts from a variety of fields, residents, business owners and community leaders can find the information they need to make decisions about their immediate future. Experts provide the best current information, and updates are made as new data become available.

From its launch date through Nov. 30, 6,446 people visited the site.

- Not long after Hurricane Katrina, concerns about the safety of Louisiana seafood began to crop up in the media and in communities across the country. Those same concerns arose again following Hurricane Rita.

LSG Communications took a proactive role following Katrina in combating misinformation concerning seafood safety by preparing, with the assistance of an LSG food scientist, a set of talking points that extension personnel could use when speaking with constituents and members of the media. Additionally, LSG Communications prepared a media pitch concerning seafood safety that was distributed to local, regional and national media.



Debris, cars and boats scattered by Hurricane Katrina must be removed from Fisherman's Wholesale Supply, a New Orleans area net maker, before owner Warren Delacroix can reopen his business.

The pitch resulted in LSG food scientist Jon Bell being a source for a seafood safety news story which aired on the NBC affiliate in Shreveport on Sept. 23. Additionally, LSG professor Rex Caffey addressed the issue of seafood safety on CNN's "Daybreak with Carol Costello" on Oct. 13.

- To help further convey the impact Hurricanes Katrina and Rita had on communities, individuals and businesses in south Louisiana, LSG Communications has partnered with the communications department of the LSU Agricultural Center to produce a short documentary film.

Marine extension agents in areas affected by the storms will narrate their response stories, as well as describe the devastation they witnessed and recount stories of personal losses. Along with hearing the emotion in the agents' voices, viewers also will see video and photos of damage in areas that have received and have not received major media coverage.